REMARKS

Claims 1-4, 7-12, and 15 are pending. Claims 1 and 8 have been amended to clarify the claimed invention. Claims 5, 6, 13 and 14 were previously canceled. No new claims are added herein. Applicant submits no new matter is added herein.

At the outset, Applicant thanks the Examiner and his supervisor, Mr. Wayne Langel, for conducting an interview with Applicant and Applicant's attorneys Elizabeth Galletta and Fran Wasserman on July 3, 2007.

Applicant is in receipt of the Interview Summary, dated July 6, 2007, which indicates Applicant provided unexpected results that appear to overcome the prior art. Applicant thanks the Examiner for noting the unexpected results on the Interview Summary and further thanks the Examiner for indicating during the interview that, based on those results, the claims appear to be allowable. Per the Examiners' suggestion, a summary of the discussion of the interview as well as the Applicant's explanation of the unexpected results is encompassed herein.

Rejections Under 35 USC §§ 102(b) and 103(a)

Claims 1-4, 7-12 and 15 were rejected under 35 USC §102(b) as anticipated by or, in the alternative, under 35 USC §103(a) as obvious over U.S. Patent No. 6,177,055 to Virnig, et al.

Virnig, et al. disclose an extraction reagent formulation that includes an aldoxime, a ketoxime or combinations thereof, and a modifier, which is referred to as an "equilibrium modifier". The preferred modifiers of Virnig, et al. are linear, i.e., non-branched, diesters and are purported to modify the kinetics of the aldoxime present in the reagent formulations, which facilitates the stripping of copper from the solution. (See col. 1, lines 46-55, col.2, lines 26-28, and col. 5, line 58).

As noted in Virnig, et al., and as explained by Applicant, Mr. Matthew Soderstrom, during the interview of July 3rd, aldoximes are strong chelators and therefore, form a strong bond with copper. Accordingly, the use of aldoximes enables one to achieve a high degree of copper extraction. (See col. 1, lines 42-45.) Applicant notes that the chelation strength and the interaction of aldoximes, and ketoximes for that matter, with a metal such as copper, is often referred to as "kinetics".

As appreciated by, and implicit throughout, Virnig, et al., as well as further elaborated by Applicant, the advantages of using an aldoxime are offset by the large amount of copper which remains as chelate in the solvent. That is, the copper cannot be easily stripped and recovered from the aldoxime. (See Virnig, et al. at col. 1, lines 46-49.)

To overcome this problem, prior to the instant invention, it was known in the art to modify the chelation strength (i.e., the kinetics) of aldoxime by adding a modifier to formulations containing aldoxime. (See Virnig, et al. at col. 1, lines 56-61.)

As Applicant explained in the interview, prior to the instant invention, it was known that the aldoxime could also be modified by the addition of a ketoxime. As Applicant indicated, ketoxime is known to be a weak chelator and it is widely accepted that ketoxime modifies the strong chelation of aldoxime. Therefore, prior to the instant invention, it was known to add a modifier to an extraction formulation to modify the aldoxime or add a ketoxime to an extraction formulation to modify the aldoxime.

However, as further explained by Applicant, the general belief of those of ordinary skill in the art, at the time of

Virnig, et al., was that the addition known modifiers, specifically branched modifiers, to an extraction formulation containing a ketoxime would ***destroy*** the modifying effect of the ketoxime, thus leaving the aldoxime unmodified. (See also the instant application at page 1, lines 29-31). If the aldoxime was not modified, the ability to extract copper would decrease, thus eliminating the whole purpose of adding a modifier or a ketoxime.

Further, as recognized by Virnig, et al., it was thought the combination of an aldoxime and a branched equilibrium modifier addressed copper recovery and also addressed issues concerning crud formation and entrainment level. However, it was nonetheless shown that the combination of an aldoxime and a linear modifier did not address the copper recovery, crud formation and entrainment level concerns. (See Virnig, et al. at col. 2, lines 18-24.)

Taking all of what was known in the art into account, Virnig, et al. sought to demonstrate that concerns relating to crud formation and entrainment would be alleviated if a linear modifier was added to the extraction formulation. Implicit in Virnig, et al. is that the improvement of the crud formation and entrainment issues would not have a

negative effect on the overall kinetics of the copper chelation. Since branched modifiers were believed to have a negative effect on extraction formulations containing ketoxime, Virnig, et al. intentionally excludes any addition of branched modifiers in any formulations containing a ketoxime. To solve the crud and entrainment issues while maintaining the kinetics of the extraction formulation, Virnig, et al. uses a linear modifier in combination with an aldoxime and a ketoxime. (See col. 2, lines 26-33.) The benefits of such a combination with respect to crud formation and entrainment level are shown specifically in Example 1 of Virnig, et al.

Example 1 of Virnig, et al. compares what was known in the art (i.e., a formulation containing an aldoxime and a modifier) to a formulation that contains an aldoxime, a ketoxime and a linear modifier.

In sum, Virnig, et al. does *not* teach or suggest an extraction reagent formulation that includes an aldoxime, a ketoxime and a branched equilibrium modifier. Furthermore, Virnig, et al. does not teach or suggest that a combination of an aldoxime, a ketoxime and any equilibrium modifier, much less a branched equilibrium modifier, has an improved or advantageous effect on copper transfer. In fact, Example

1 of Virnig, et al. completely avoids the combination of an aldoxime, a ketoxime and a branched modifier since it was widely known and widely accepted in the art, at that time, that a branched modifier would not work with a formulation containing a ketoxime. However, Applicant quite unexpectedly found that branched modifiers in the claimed amounts do work with a formulation containing a ketoxime. (See the Examples of the instant application).

Accordingly, one of ordinary skill in the art, who would have appreciated that it was not accepted to add any modifiers known at the time of Virnig, et al. (and specifically add branched modifiers) to an aldoxime/ketoxime combination (since it was known to negatively affect copper transfer kinetics) would have appreciated from the teachings of Virnig, et al. that the addition of a linear modifier to such a combination would overcome crud formation and entrainment issues, and ostensibly without a negative effect on the copper transfer kinetics.

In contrast to Virnig, et al., instant claims 1 and 8, and the claims dependent therefrom, recite solvent extraction compositions that include, *inter alia*, one or more orthohydroxyarylaldoximes ("aldoximes"), one or more orthohydroxyarylketoximes ("ketoximes") and one or more

equilibrium modifiers selected from 2,2,4-trimethyl-1,3-pentanediol mono-isobutyrate, 2,2,4-trimethyl-1,3-pentanediol mono-benzoate, 2,2,4-trimethyl-1,3-pentanediol di-isobutyrate, 2,2,4-trimethyl-1,3-pentanediol di-benzoate, isobutyl heptyl ketone, nonanone, 2,6,8-trimethyl-4-nonanone, diundecyl ketone, 5,8-diethyldodecane-6,7-dione, and tridecanol, all of which are not linear modifiers.

The instantly claimed extraction compositions require one or more orthohydroxyarylaldoximes, one or more orthohydroxyarylketoximes and one or more selected branched, i.e., non-linear, equilibrium modifiers in an amount that provides a degree of modification of the orthohydroxyarylaldoximes present from about 0.2 to 0.61.

As shown in the Examples of the instant application (see pages 11-12), the currently claimed formulation has an improved copper transfer compared to formulations that contain aldoximes and ketoximes. Such a demonstration is not taught or suggested by Virnig, et al., and is unexpected in light of what was known in the art prior to the instant invention.

Accordingly, Virnig, et al. does not disclose or suggest the presently claimed extraction composition. Therefore, Applicant submits the present rejection has been

overcome and respectfully request the Examiner withdraw the rejection, consistent with the discussions during the interview.

Notice of Appeal

While Applicant believes that the claims as amended are in condition for allowance, and the Examiner interview record appears to support this, Applicant includes a Notice of Appeal in order to maintain the pendency of the instant application.

The application is now in condition for allowance, or in the alternative, in better condition for appeal, and this amendment is in conformance with the provisions of 37 CFR 1.116 and should be entered. Therefore, Applicant respectfully requests the Examiner to take such proper actions so that a patent will issue herefrom as soon as possible.

If the Examiner believes a telephone conference would aid in the continued prosecution of this application, the Examiner is invited and encouraged to contact Applicant's representative at the telephone number listed below.

Please charge any fees due with this response to Deposit Account 23-1665.

Respectfully submitted,

Matthew D. Soderstrom

Date: July 19, 2007

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